

### Trend Study 10-20-00

Study site name: Upper Cottonwood.

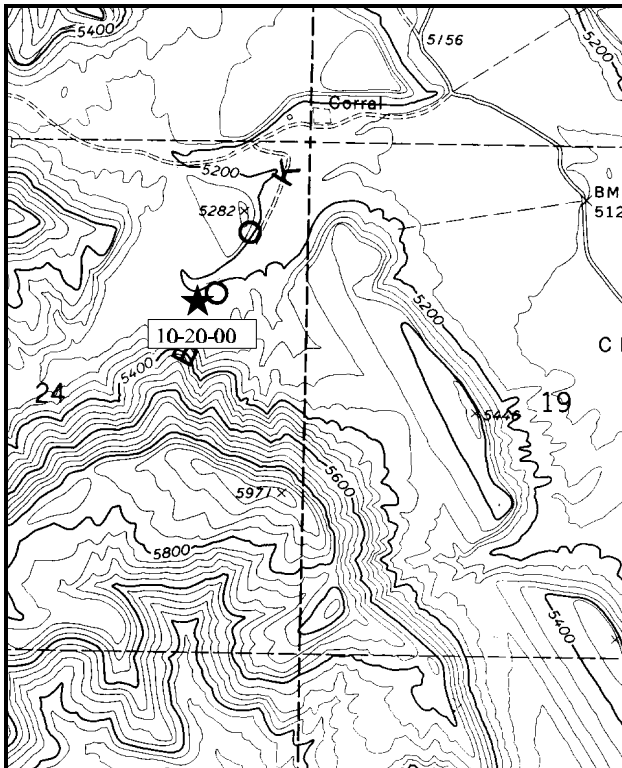
Range type: Black Greasewood and Juniper.

Compass bearing: frequency baseline 165°M.

First frame placement on frequency belts 5 feet. Frequency belt placement; line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

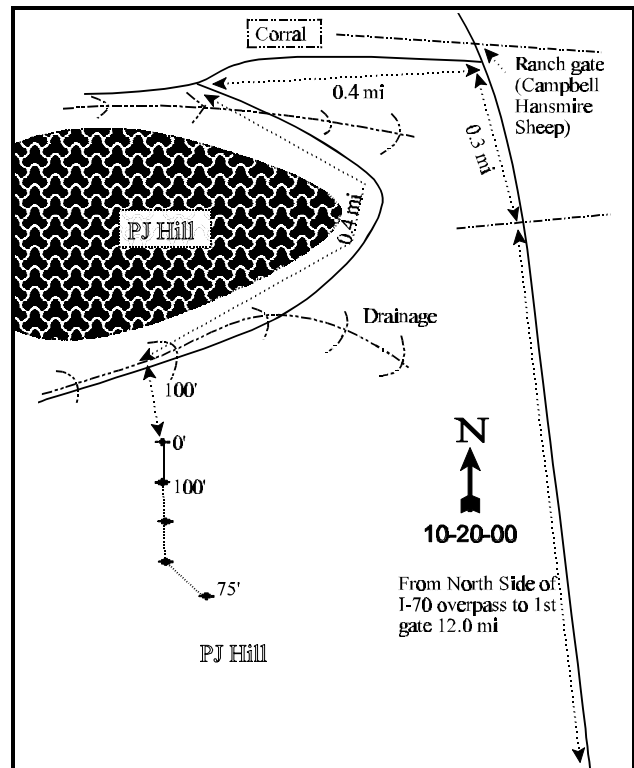
### LOCATION DESCRIPTION

From I-70, take the east Cisco exit (Exit #212). From the north side of the overpass travel 12.0 miles to a gate. Go through the gate and proceed 0.3 miles to a sheep ranch gate with an archway. Turn left just before the gate. Go 0.4 miles passing the corrals. Turn left again to go to the next canyon to the south and continue 0.4 miles up the canyon to just past a large rocky cliff on your right. Park in the wash (road is in the wash at this point) near a small draw that comes in from the north. Walk up the hill to the left (south) to an open greasewood-cheatgrass bench. The frequency baseline 0-foot stake is 70 feet south of the wash.



Map Name: Flume Canyon

Township 19S, Range 22E, Section 24



Diagrammatic Sketch

UTM. 4333576.332 N, 635851.100 E

## DISCUSSION

### Trend Study No. 10-20 (16B-7)

The Upper Cottonwood transect is the only study on the South Book Cliffs to sample the common black greasewood habitat type. It samples a mixed vegetation type located at the foot of the Book Cliffs at the mouth of Coal Canyon. Elevation at the study site is 5,300 feet with a mainly northern exposure and a slight slope down to a deep intermittent wash. When this study was established, the lower part of the transect was located in more of an alkali flat dominated by black greasewood and cheatgrass. The density plots were located on a slope with rockier soil where juniper and sagebrush were more prevalent. For a better sample size and to get a better distribution within the same type (more homogeneous sample), the last three belts were moved from the hillside and now sample the lower flat.

This area currently receives sheep use from November 15th through mid-May as part of the Cisco Mesa Allotment plan for 2,628 AUM's. Due to a temporary sheep shearing camp located nearby, the area may receive concentrated use at certain times. Currently, deer use is light in this area. Pellet group transect data from 2000 estimate 15 deer days use/acre (37 ddu/ha) and 6 elk days use/acre (15 edu/ha).

This alkaline-saline flat receives sedimentation from the eroding hillsides. Overall, the soil is loamy in texture with an estimated effective rooting depth of over 13 inches. Average soil temperature is 67°F at 13 inches. The soil reaction is slightly alkaline (pH of 7.5). In certain places the soil appears quite deep, but in others there are large rocks near the surface. Rock and pavement combine for a cover value over 7% in 2000. A profile stoniness index estimated from penetrometer readings shows a moderate amount of rock in the first few inches of the profile. Phosphorus is very low at 1.5 ppm, well below the 10 ppm thought necessary for normal plant growth and development. Vegetation and litter accounted for 44% and 45% of the ground cover in 1995, both decreasing in 2000. Vegetation cover decreased by half and litter cover by nearly a third due to the drastic decrease in cover from cheatgrass associated with the drought in 2000. As a result, bare ground cover nearly doubled in 2000.

Wyoming big sagebrush is the key species on this winter range, although it is not very abundant. Sagebrush density was estimated at 520 plants/acre in 1995 and 620 plants/acre in 2000. Fifty-six percent of the population was reported as decadent in 1986, decreasing to 4% in 1995. Decadency increased to 19% in 2000 with 6% of the population displaying poor vigor. Use on sagebrush increased to 45% heavy use in 2000, up from 4% in 1995. Recruitment is currently moderate at 10%, but no seedlings were sampled in 2000. Sagebrush annual leaders were on average up to 5 inches in length in 2000.

Shadscale is found scattered over the area at an estimated density of 280 plants/acre in 1995, decreasing to 80 plants/acre in 2000. The decrease in density is due to an increase in the number of dead plants and a decrease in the young age class. Percent decadency, poor vigor, and the ratio of dead to live plants all increased in 2000. There is currently no recruitment from young plants. Winterfat is currently ('00) estimated at 240 plant/acre with 25% of the population showing heavy use. Decadency is low at 8%, with vigor being generally good. Winterfat had excellent annual leader growth in 2000 ranging from 12 to 20 inches. The most numerous plant sampled in 1995 was broom snakeweed at an estimated density of 880 plants/acre. This population decreased in 2000 to an estimated 300 plants/acre. The black greasewood density is low, but increased from 260 plants/acre in 1995 to 760 plants/acre in 2000. This increase is due to high young recruitment which make up 55% of the population in 2000. Mature plants average 4 feet in height with 4 ½ feet crowns. Juniper is prevalent on the surrounding hillsides and can also be found along the washes below the site. The juniper on the slope are not utilized but provide some thermal and escape cover. Also scattered throughout the site in low densities are spiny hopsage, rubber rabbitbrush, sticky leaf rabbitbrush, and fourwing saltbush.

Perennial grasses on the site include Salina wildrye, bottlebrush squirreltail, sand dropseed, Indian ricegrass, and mutton bluegrass. These are found scattered throughout the area with most occurring under the protective cover of shrubs. Salina wildrye was the most abundant perennial grass in 1995, and second most abundant in 2000. Sand dropseed is currently the most abundant perennial grass, significantly increasing in nested frequency in 2000 with all other perennial grasses remaining at fairly stable frequencies. As a group, perennial grasses increased in sum of nested frequency and nearly doubled in average cover. A very dense stand of cheatgrass occurs throughout the flat under the shrubs, as well as in the interspaces. Cheatgrass was overwhelmingly thick in 1995 due to the very wet spring providing over 32% average cover. In 2000, cheatgrass was almost as abundant in quadrat frequency as in 1995, but greatly decreased in average cover to just over 5% as plants were small statured due to drought. Cheatgrass still remains the most abundant grass and it provides 48% of the grass cover. Perennial forbs provide little forage value. Scarlet globemallow, which was thought to be increasing in 1986, has since significantly decreased. Sego lily, longleaf phlox, and *Astragalus* were also sampled and are in low densities. Nested frequency for perennial forbs stayed the same as the 1995 reading. Annual forbs greatly increased in abundance in 2000 which is surprising with the drought. Most of this increase comes from the increase in two species, bur buttercup and blue mustard, which together account for 87% of the forb cover and 36% of the total herbaceous cover.

#### 1986 APPARENT TREND ASSESSMENT

This site appears to receive lighter grazing pressure than other study sites in management unit 10 on the South Book Cliffs. The browse species are in better condition, there is more diversity in both the browse and herbaceous components and generally more ground cover. Although the browse looks better, the vegetative trend appears stable to possibly down due to the composition and age class distribution of the key species. Harvester ant hills are common. The soil trend appears stable with no recent gullies or detectable soil movement over most of the area. There will always be some erosion and sedimentation from the hillside.

#### 1995 TREND ASSESSMENT

Although the more preferable species Wyoming big sagebrush and shadscale show improving trends individually, both broom snakeweed and black greasewood have increased in total percent browse composition. Very few seedlings were encountered for any species. This is likely due to the intense competition for soil moisture with the dense annual understory and the extended drought. Lighter utilization may be helping the plants individually, but only the removal of the very competitive cheatgrass with competition with perennial grasses will increase the biotic potential for the shrub populations. With such a high fine fuel load provided by the cheatgrass, if a fire does occur, all that would be left is cheatgrass and the root sprouting black greasewood. The browse trend is stable to slightly downward since 1986 and is in fair to poor condition with several non-preferred species. Total sum of nested frequency for perennial grass species has increased since 1986 with most of the increase coming from Salina wildrye. At this time, any increase in perennial grass species, to compete with the dense cheatgrass understory, is good. Although scarlet globemallow significantly decreased in sum of nested frequency value, several other perennial species were encountered keeping the total perennial forb sum of nested frequency nearly the same. For these reasons, herbaceous understory trend is slightly upward. Soil stabilization is not a problem at this time due to the high cover of cheatgrass and litter. With no signs of active erosion, except for the gully that drains the canyon below the site, the soil trend is stable.

#### TREND ASSESSMENT

soil - stable (3)

browse - stable to slightly downward (3)

herbaceous understory - slightly upward but with poor composition of mostly annuals (4)

## 2000 TREND ASSESSMENT

Trend for soil is slightly down. Bare ground cover nearly doubled while vegetation cover decreased by half and litter cover decreased by a third. These drastic changes in ground cover characteristics are due to the decrease in cheatgrass cover due to drought in 2000. The unusually wet spring of 1995 resulted in 32% average cover from cheatgrass, but the drought in 2000 caused cheatgrass to decrease in average cover to just over 5%. Soil trend is only slightly down as perennial grasses nearly doubled in cover, but more importantly, increased in sum of nested frequency. Trend for browse is slightly down overall. Wyoming big sagebrush shows increases in decadency, use, and poor vigor. Recruitment slightly decreased in 2000, but is still moderate at 10%. Other palatable browse such as shadscale and winterfat occur in low densities and do not appear to be increasing with low recruitment. The main negative factor for browse on this sight is the increase in black greasewood. Estimated at 260 plants/acre in 1995, greasewood increased to 760 plants/acre in 2000 with an influx of young plants into the population. Greasewood is now the most abundant browse species in cover, stature, and density. Trend for the herbaceous understory is slightly up as perennial grasses doubled in cover and increased in sum of nested frequency.

### TREND ASSESSMENT

soil - slightly down (2)

browse - slightly down (2)

herbaceous understory - slightly up (4)

### HERBACEOUS TRENDS --

Herd unit 10 , Study no: 20

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'86	'95	'00	'86	'95	'00	'95	'00
G	Aristida purpurea	-	-	6	-	-	3	-	.01
G	Bromus tectorum (a)	-	<sub>b</sub> 376	<sub>a</sub> 288	-	97	94	32.71	5.55
G	Elymus cinereus	7	-	-	2	-	-	-	-
G	Elymus salina	-	53	47	-	21	19	2.45	1.95
G	Oryzopsis hymenoides	22	18	34	16	11	17	.26	1.70
G	Poa fendleriana	1	6	7	1	2	4	.01	.04
G	Sitanion hystrix	12	9	6	5	3	3	.19	.01
G	Sporobolus cryptandrus	<sub>a</sub> 48	<sub>a</sub> 31	<sub>b</sub> 82	21	14	33	.22	2.19
G	Stipa comata	-	4	9	-	2	3	.15	.07
Total for Annual Grasses		0	376	288	0	97	94	32.71	5.55
Total for Perennial Grasses		90	121	191	45	53	82	3.28	5.99
Total for Grasses		90	497	479	45	150	176	36.00	11.55
F	Ambrosia psilostachya	<sub>a</sub> -	<sub>a</sub> -	<sub>b</sub> 21	-	-	8	-	.19
F	Astragalus spp.	-	4	-	-	2	-	.03	-
F	Calochortus nuttallii	2	2	-	1	2	-	.01	-
F	Chenopodium spp. (a)	-	-	6	-	-	2	-	.01
F	Chorispora tenella (a)	-	<sub>a</sub> -	<sub>b</sub> 125	-	-	45	-	2.29

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'86	'95	'00	'86	'95	'00	'95	'00
F	<i>Collinsia parviflora</i> (a)	-	-	2	-	-	1	-	.00
F	<i>Draba</i> spp. (a)	-	-	1	-	-	1	-	.00
F	<i>Erodium cicutarium</i> (a)	-	3	-	-	1	-	.00	-
F	<i>Erigeron</i> spp.	-	5	-	-	3	-	.04	-
F	<i>Lepidium perfoliatum</i>	-	2	-	-	1	-	.00	-
F	<i>Phlox longifolia</i>	a-	b11	ab3	-	5	1	.02	.00
F	<i>Plantago patagonica</i> (a)	-	b81	a5	-	33	3	.19	.01
F	<i>Ranunculus testiculatus</i> (a)	-	a5	b236	-	2	78	.01	4.80
F	<i>Salsola iberica</i> (a)	-	a-	b100	-	-	41	-	.63
F	<i>Sisymbrium altissimum</i> (a)	-	b14	a2	-	6	1	.03	.03
F	<i>Sphaeralcea coccinea</i>	b23	a5	a5	10	3	3	.04	.16
F	<i>Tragopogon dubius</i>	1	-	-	1	-	-	-	-
F	Unknown forb-perennial	1	-	-	1	-	-	-	-
Total for Annual Forbs		0	103	477	0	42	172	0.23	7.80
Total for Perennial Forbs		27	29	29	13	16	12	0.15	0.35
Total for Forbs		27	132	506	13	58	184	0.38	8.15

Values with different subscript letters are significantly different at  $\alpha = 0.10$  (annuals excluded)

#### BROWSE TRENDS --

Herd unit 10 , Study no: 20

Type	Species	Strip Frequency		Average Cover %	
		'95	'00	'95	'00
B	<i>Artemisia tridentata</i> wyomingensis	16	13	.80	1.21
B	<i>Atriplex canescens</i>	1	1	.03	.00
B	<i>Atriplex confertifolia</i>	13	4	.74	.31
B	<i>Ceratoides lanata</i>	7	10	.57	.31
B	<i>Chrysothamnus viscidiflorus</i> stenophyllus	2	3	-	.38
B	<i>Grayia spinosa</i>	1	4	.63	.67
B	<i>Gutierrezia sarothrae</i>	13	5	.45	.18
B	<i>Juniperus osteosperma</i>	0	0	.03	-
B	<i>Opuntia</i> spp.	0	1	-	-
B	<i>Sarcobatus vermiculatus</i>	11	19	4.07	4.17
Total for Browse		64	60	7.34	7.25

BASIC COVER --

Herd unit 10 , Study no: 20

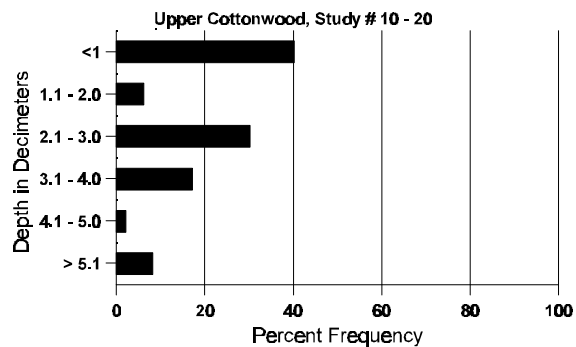
Cover Type	Nested Frequency		Average Cover %		
	'95	'00	'86	'95	'00
Vegetation	386	279	32.25	44.45	22.42
Rock	119	78	0	4.74	4.63
Pavement	21	127	0	1.55	3.00
Litter	393	369	46.50	45.71	33.49
Cryptogams	34	34	0	.25	1.37
Bare Ground	251	330	21.25	21.18	40.65

SOIL ANALYSIS DATA --

Herd Unit 10, Study # 20, Study Name: Upper cottonwood

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
13.46	67.2 (13.23)	7.5	42.4	31.1	26.6	1.6	1.5	166.4	0.6

## Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 10 , Study no: 20

Type	Quadrat Frequency		Pellet Transect	
	'95	'00	Pellet Groups per Acre 00	Days Use per Acre (ha) 00
Sheep	31	2	52	N/A
Rabbit	5	46	392	N/A
Horse	-	1	61	N/A
Elk	-	2	78	6 (15)
Deer	4	11	200	15 (38)
Cattle	-	1	-	-

## BROWSE CHARACTERISTICS --

Herd unit 10 , Study no: 20

Artemisia tridentata wyomingensis																		
A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
S	86	4	-	-	-	-	-	-	-	-	4	-	-	-	133			4
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	86	3	-	-	-	-	-	-	-	-	3	-	-	-	100			3
	95	1	3	-	-	-	-	-	-	-	4	-	-	-	80			4
	00	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
M	86	3	5	1	-	-	-	-	-	-	8	-	1	-	300	16	15	9
	95	4	13	1	2	1	-	-	-	-	21	-	-	-	420	34	38	21
	00	2	10	9	-	1	-	-	-	-	22	-	-	-	440	24	27	22
D	86	5	7	2	1	-	-	-	-	-	14	-	-	1	500			15
	95	-	1	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	1	5	-	-	-	-	-	-	4	-	-	2	120			6
X	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	80			4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		44%			11%			07%			-42%							
'95		69%			04%			00%			+16%							
'00		39%			45%			06%										
Total Plants/Acre (excluding Dead & Seedlings)														'86	900	Dec:	56%	
														'95	520		4%	
														'00	620		19%	
Atriplex canescens																		
Y	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	17	19	0
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40	18	17	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		00%			00%			00%			+50%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'86	0	Dec:	-	
														'95	20		-	
														'00	40		-	

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Atriplex confertifolia																		
Y	86	3	-	-	-	-	-	-	-	-	3	-	-	-	100		3	
	95	1	-	-	3	-	-	-	-	-	4	-	-	-	80		4	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	86	5	-	-	-	-	-	-	-	-	5	-	-	-	166	14	18	
	95	8	-	-	-	-	-	-	-	-	8	-	-	-	160	15	30	
	00	3	-	-	-	-	-	-	-	-	3	-	-	-	60	12	21	
D	86	3	1	1	-	-	-	-	-	-	4	-	1	-	166		5	
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	00	1	-	-	-	-	-	-	-	-	-	-	-	1	20		1	
X	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		08%			08%			08%			-35%							
'95		00%			00%			00%			-71%							
'00		00%			00%			25%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	432	Dec:	38%			
												'95	280		14%			
												'00	80		25%			
Ceratoides lanata																		
S	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	86	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1	
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
	00	4	-	-	-	-	-	-	-	-	4	-	-	-	80		4	
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	95	6	-	-	-	-	-	-	-	-	6	-	-	-	120	17	22	
	00	4	-	2	-	1	-	-	-	-	7	-	-	-	140	16	13	
D	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	00	-	-	1	-	-	-	-	-	-	-	-	-	1	20		1	
X	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%			+76%							
'95		00%			00%			00%			+42%							
'00		08%			25%			08%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	33	Dec:	0%			
												'95	140		0%			
												'00	240		8%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysothamnus nauseosus																		
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	34	77	0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	0	Dec:	-			
												'95	0		-			
												'00	0		-			
Chrysothamnus viscidiflorus stenophyllus																		
M	86	1	-	-	-	-	-	-	-	-	1	-	-	-	33	15	11	1
	95	1	2	-	-	-	-	-	-	-	3	-	-	-	60	18	26	3
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15	17	0
D	86	4	1	-	-	-	-	-	-	-	5	-	-	-	166			5
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	2	-	-	1	-	-	-	-	-	2	-	-	1	60			3
X	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		17%			00%			00%			-70%							
'95		67%			00%			00%			+ 0%							
'00		00%			00%			33%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	199	Dec:	83%			
												'95	60		0%			
												'00	60		100%			
Eriogonum microthecum																		
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	11	11	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	0	Dec:	-			
												'95	0		-			
												'00	0		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Grayia spinosa																		
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	21	51	0
	00	3	-	1	-	-	-	-	-	-	-	4	-	-	80	16	28	4
D	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	1	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		100%			00%			00%			+75%							
'00		00%			25%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	0	Dec:	0%			
												'95	20		100%			
												'00	80		0%			
Gutierrezia sarothrae																		
Y	86	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	95	6	-	-	-	-	-	-	-	-	6	-	-	-	120			6
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	86	3	-	-	-	-	-	-	-	-	3	-	-	-	100	8	3	3
	95	38	-	-	-	-	-	-	-	-	38	-	-	-	760	14	18	38
	00	14	-	-	-	-	-	-	-	-	14	-	-	-	280	7	9	14
D	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%			+85%							
'95		00%			00%			00%			-66%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	133	Dec:	0%			
												'95	880		0%			
												'00	300		7%			
Juniperus osteosperma																		
Y	86	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	86	2	-	-	-	-	-	-	-	-	2	-	-	-	66	67	79	2
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	99	Dec:	-			
												'95	0		-			
												'00	0		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Opuntia spp.																		
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6	19	0
	00	1	-	-	-	-	-	-	-	-	-	1	-	-	-	20	7	22
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	0	Dec:	-			
												'95	0		-			
												'00	20		-			
Sarcobatus vermiculatus																		
S	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	3	-	-	-	-	-	-	-	-	-	3	-	-	-	60		3
Y	86	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
	00	18	-	-	3	-	-	-	-	-	21	-	-	-	420			21
M	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	11	-	-	1	-	-	-	-	-	12	-	-	-	240	55	60	12
	00	7	-	-	2	1	-	-	-	-	10	-	-	-	200	49	55	10
D	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	5	2	-	-	-	-	1	-	-	6	140			7
X	86	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	60			3
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'86		00%			00%			00%			+87%							
'95		00%			00%			00%			+66%							
'00		08%			00%			16%										
Total Plants/Acre (excluding Dead & Seedlings)												'86	33	Dec:	0%			
												'95	260		0%			
												'00	760		18%			